was always in connection with fireworks displays, a hobby of his.
Elansky's account is certainly plausible, though the facts he relates could also support the view that he was dabbling in bombs the whole time. Either way, we can understand why the police were so eager to put him away for a bomb making recipe.

Regardless of their motivations, however, the police made a big mistake in jailing Elansky for a text file on his BBS. The **1st Amendment** prohibits government officials from acting against anyone for distributing material containing political content. If, as Elansky's parents claim, he did not even know the file was on his BBS until after he was arrested, then he is entitled to even greater legal protection from prosecution, such as accorded to book stores and magazine distributors. Distributors are not responsible for materials passing through their systems, even patently illegal materials like obscene or infringing publications, unless they are specifically aware of the materials in question. This rule is necessary to assure the smooth flow of 1st Amendment materials through mass distribution systems for both printed and electronic materials. Without the rule, distribution systems would slow to a crawl as their owners review every text to make sure they will not get sued for carrying it.
Even if Elansky made bombs all those years as the police believe, this gives no support to jailing him based on the BBS file. The police acted criminally in penalizing him for speech on his BBS. There is an "incitement" exception to the protection of speech, but it requires a "clear and present danger" that injury is about to result from the speech being penalized. There was absolutely no clear and present danger from the bomb-making file on the Warehouse BBS. The text was in circulation for years in print form, and is now common all over the nets, just another wild- eyed political leaflet strewn along the electronic highway. If the text ever posed a present danger to anyone, that "present" has by now receded into the distant past. At any rate, Elansky did not author the file, did not even know it was on his system, and absolutely should not be held legally to account for it.

The question now is whether the West Hartford police will continue their illegal incarceration of Elansky based on the BBS bomb-making file. Their best bet would be to cut their losses now and spring him loose. In the meantime, Elansky has been cooling his heels in jail for three weeks now, and looks forward to at least another three weeks behind bars before the next hearing in his case.

As we went to press, Elansky called me once more from jail, telling me his parents just set up a legal defense fund. Boardwatch readers who want to help can send checks payable to the **"Michael Elansky Fund"**, acc.# 02060573652, either to the Society for Savings, 342 North Main Street, West Hartford, CT, 06117 or directly to Michael Elansky, 25 Maiden Lane, West Hartford, CT 06117 (we did not have time to confirm this with the Society for Savings). They're going to need every penny. Elansky says he just hired the best lawyer in town, who charged an initial retainer of $15,000 to get started. This could be an important 1st Amendment case; if you think he's been wronged, helping Michael can be a good investment in justice.

[Lance Rose is an attorney practicing high-tech and information law in Montclair, NJ. He can be found on the Internet at **elrose@well.sf.ca.us**, and on Compuserve at 72230,2044. He is also author of SysLaw, the legal guide for online service providers, available from PC Information Group at **800-321-8285**. - *Editor*]

# INTERNET NOTES

## PLAYING IN THE MUD

By Kevin M. Savetz

Much of the online world works on a store-and-forward concept that broadly reduces the importance of time and space. But increasingly, real-time functions such as chat and multiplayer games are garnering attention online as well. On the Internet, the analog to this is widely referred to as Multi-User Dungeon or (**MUD**). Patterned after text adventure games of the Dungeons and Dragons genre - they've been popular on the net for a number of years.

**WHAT IS MUD?** MUDs are programs that allow you to interact in real-time with other people in a virtual environment. Your electronic world surroundings might include any combination of characters, creatures, rooms and objects. Users in the world of a MUD can converse, move around, affect the environment, play games, program, hunt for treasure, and fight vile beasties. MUDs are generally accessed by using the Internet's **telnet** program to connect to a remote MUD "server" - the program that is the heart of the simulated environment.

MUDs usually have various "locations" or "rooms" that players can move through by typing the compass directions. Objects can be manipulated with commands like **GET**, **LOOK**, **EAT** and **THROW**. Conversation with others users (and sometimes intelligent programs) is accomplished using the **SAY** command, for speaking "aloud," and **EMOTE**, to show actions. (For instance, "waffle looks at you cross-eyed.") MUDs incorporate ideas from "real life," affectionately known as **"RL"** to mudders. On some MUDs, elements pilfered from RL include economic systems, household appliances, magic, and weddings.

Most MUDs are text-only. Although graphics-oriented MUDs exist, they have drawbacks. They are usually slower than text-only MUDs. Then too, using a graphical MUD requires special "client" software that interprets the graphics data and displays it on your screen. Because there are so many computer systems - from Atari ST to Macintosh, from Sun to Z80s - it's not always possible to get the right client software for your machine. So, for now, text-based MUDs are the norm. Most mudders don't consider this a drawback, however. MUDs are quite like **"Zork"** and other text adventure games: the graphics are unnecessary when there are detailed and imaginative descriptions of players and objects. A good part of the game actually resides in the minds and imaginations of the players. In some odd ways, graphics actually seem to detract from the action in some cases.

**IS MUD A GAME?** That depends on

# LIST OF MUDS

MUDs come and go daily, so some of the following MUDs may no longer be active after press time. For a possibly complete and potentially up-to- date listing, read "The Totally Unofficial List of Internet Muds" on the Usenet **group rec.games.mud.announce**, where it is posted frequently. You may also get it via FTP from **"rtfm.mit.edu"** in directory **"pub/usenet/rec.games.mud.announce"**.

To access a MUD, you need an Internet account and access to the "telnet" program which connects your computer to a remote "host" running a the MUD server. Most muds require you to request a specific port number, a numeric extension following the host address, for example: **"telnet lambda.parc.xerox.com 8888"** or **"telnet 13.2.116.36 8888"**.

### AberMUDs

| | | |
|---|---|---|
| Askerbulkum | **minsk.docs.uu.se** | 130.238.9.30 6715 |
| DragonMud | **fermina.informatik.rwth-aachen.de** | 137.226.224.20 6715 |
| Kender's Kove | **marx.esu.edu** | 192.147.113.10 6715 |
| Longhorn | **lisboa.cs.utexas.edu** | 128.83.139.10 6715 |
| Mustang MUD | **mustang.dell.com** | 143.166.224.42 6715 |
| Northern Lights | **aber.ludd.luth.se** | 130.240.16.18 6715 |
| Tyrann II | **muselab.ac.runet.edu** | 137.45.33.100 6715 |
| | **muselab-gw.runet.edu** | 137.45.128.10 |

### DikuMUDs

| | | |
|---|---|---|
| AlexMUD | **mud.stacken.kth.se** | 130.237.234.17 4000 |
| Apocalypse III | **peabrain.humgen.upenn.edu** | 128.91.3.204 4000 |
| BobMUD | **newt.cc.geneseo.edu** | 137.238.1.11 9000 137.38.1.11 |
| Chomestoru | **mccool.cbi.msstate.edu** | 130.18.104.2 4000 |
| Dark Knight's Realm | **sun1.cstore.ucf.edu** | 132.170.223.1 4000 |
| FredMUD | **fred.indstate.edu** | 139.102.12.14 2150 |
| Generic MUD | **susan.mit.edu** | 18.80.1.222 4000 |
| Gods of War | **shadow.acc.iit.edu** | 192.41.245.143 4000 |
| GrimneMUD | **gytje.pvv.unit.no** | 129.241.36.229 4000 |
| KIT-MUD | **jinsil.kaist.ac.kr** | 137.68.17.5 4000 |
| Last Outpost | **sprinkle.cray.com** | 128.162.84.19 4000 |
| MUME | **lbdsun4.epfl.ch** | 128.178.77.5 4000 |
| | **disun8.epfl.ch** | 128.178.79.56 |
| Medievia | **bigboy.cis.temple.edu** | 129.32.32.98 4000 |
| Mozart | **csci1.uark.edu** | 130.184.71.148 4000 |
| Mudde Pathetique | **flysex.berkeley.edu** | 128.32.128.36 2999 |
| QUEST! | **steinmetz.ee.utulsa.edu** | 129.244.59.34 1701 |
| Renegade Outpost | **louie.cc.utexas.edu** | 128.83.135.4 9999 9998 |
| Rivers of Mud | **cie-2.uoregon.edu** | 128.223.36.161 9000 |
| Rocky Mud | **spot.colorado.edu** | 128.138.129.2 4000 |
| SillyMud | **doldrums.cis.ufl.edu** | 128.227.224.35 4001 4000 |
| Snebo-land | **thrash.isca.uiowa.edu** | 128.255.19.235 4000 |
| The Crystal Shard | **mib16.eng.ua.edu** | 130.160.80.16 9000 |
| The Perilous Realms | **odin.wosc.osshe.edu** | 140.211.111.20 2150 |

### LPmuds

| | | |
|---|---|---|
| AbacusMUD | **abacusmud.hgs.se** | 130.238.204.21 4080 |
| Ancient Anguish | **dancer.ethz.ch** | 129.132.57.66 2222 |
| Beyond Belief | **cook.brunel.ac.uk** | 134.83.128.246 4444 |
| Darker Realms | **worf.tamu.edu** | 128.194.51.189 2000 |
| Deeper Trouble | **alk.iesd.auc.dk** | 130.225.48.46 4242 |
| DragonFire | **bigben.umsl.edu** | 134.124.42.246 3000 |
| GateWay | **actlab.rtf.utexas.edu** | 128.83.194.11 6969 |
| Genesis | **milou.cd.chalmers.se** | 129.16.79.12 2000 |
| | **ibtest1.cs.chalmers.se** | 129.16.225.125 3011 |
| Highlands | **pip.shsu.edu** | 192.92.115.10 2000 |
| Igor | **ny.mtek.chalmers.se** | 129.16.60.9 1701 |

who you ask. One "wizard" (a person who runs or help keep control of a MUD) I know vehemently proclaims that his MUD is a "Social experiment in a text-based virtual reality." Maybe, but to most of his users, it's a game.

Each MUD has a theme. Connect to any given MUD, and you might find yourself on a drifting space station, in Medieval England, in a sprawling Northern California mansion, or in any other of a million scenarios. Because many MUDs differ in theme, scope and goals, each one attracts different sorts of users. Some MUDs allow users to cast spells, chase dragons, and frolic in a virtual wilderness with electronic gnomes. I think it would be safe to call this type of MUD a game. Then again, some MUDs are used mainly for programming, conversation and information exchange between professionals. Obviously, these aren't being used for gaming.

Many MUDs let users do what they will - if you're in the mood to be dragon bait, fine; if you would rather converse with users on the other side of the globe, that's fine too.

According to the ***New Hacker's Dictionary*** (a wholly nifty book, edited by Eric Raymond) MUD derives from an artificial intelligence experiment at the **University of Essex** in the early 1980s. Students on the European academic networks liberated the idea, creating a slew of derivatives with names like **AberMUD**, **VaxMUD** and **LPMUD**. MUDs crossed the Atlantic around 1988 and gained popularity in the United States. A "second wave of MUDs emphasized social interaction, puzzles and cooperative world-building as opposed to combat and competition." Last year, over 50% of MUD sites were of a third major variety, LPMUD, which combines the combat and puzzle aspects of AberMUD with extendibility. The trend toward greater programmability and flexibility has continued.

As programmers create new types of MUDs, new names appear for the environments. These include **TinyMud**, **DUM**, **MOO**, **MUCK**, **MUG**, and a plethora of others. Although some types of systems are generally used for a certain type of game, the best way to find out what a certain MUD is like is to just connect to it. TinyMUDs are usually more socially-

oriented - players gather, chat, meet friends, and discuss things. The LP-family of MUDs are based on role-playing games, so characters spend more time killing monsters, gathering treasure, or otherwise trying to reach some goal. Some MUDs are based on score or level systems - the highest level is usually "wizard." Others - the ones that are more socially-oriented - have no levels or scoring system. (Whoever is in charge, even on social MUDs, gets an ego-boosting title like "god" or "wizard.")

Most MUDs are open to the public: the first time you enter, you are asked for a name and a password. Then, you are dropped into the virtual reality to fend for yourself. What you do then is up to you.

### FOR MORE INFORMATION

There are several very good frequently asked questions and answer (**FAQ**) files available online that detail MUDs, MUD clients and servers, and a complete, current MUD-list.

The most recent versions of the MUD FAQs are available by anonymous FTP from **ftp.math.okstate.edu** (139.78.10.6) in **pub/muds/misc/mud-faq**, plus on **rtfm.mit.edu** in **pub/usenet/alt.mud** as:

[rec.games.mud]:_FAQ_#1_3:_MUDs_and_MUDding
[rec.games.mud]:_FAQ_#2_3:_MUD_Clients_and_Servers
[rec.games.mud]:_FAQ_#3_3:_RWHO_and__mudwho_

In addition, there are a variety of Usenet newsgroups related to MUDs:
**rec.games.mud.announce** - Informational articles about MUDs. (Moderated)
**rec.games.mud.diku** - All about DikuMuds.
**rec.games.mud.lp** - Discussions of LPMUD.
**rec.games.mud.moo** - Discussion about MOO (Object Oriented MUD).
**rec.games.mud.misc** - Various aspects of multi-user computer games.
**rec.games.mud.tiny** - Discussion of Tiny MUDs, IE MUSH, MUSE and MOO.
**rec.games.mud.admin** Administrative issues of multiuser dungeons.

**alt.mud.german** - For German-speaking mudders.

## LIST OF MUDS

| | | |
|---|---|---|
| Ivory Tower | marvin.macc.wisc.edu | 144.92.30.207 2000 |
| Kain's Estate | cognac.informatik.uni-kl.de | 131.246.8.96 2000 |
| KoBra | duteca4.et.tudelft.nl | 130.161.144.22 8888 |
| Loch Ness | lochness.i1mp.ch<br>indigo.imp.ch | 157.161.1.12 2222 |
| Lost Souls | ux.tcs.uh.edu | 129.7.2.110 3000 |
| LustyMud | lusty.tamu.edu | 128.194.9.199 2000 |
| Nameless | complex.is | 130.208.165.231 2000 |
| NannyMUD | kajsa.lysator.liu.se | 130.236.254.150 2000 |
| Nanvaent | corrour.cc.strath.ac.uk | 130.159.220.8 3000 |
| Nightmare | jericho.connected.com | 162.148.251.252 6000 |
| Overdrive | eng3.sequent.com | 138.95.7.14 5195 |
| PaderMUD | mud.uni-paderborn.de<br>padermud.uni-paderborn.de | 131.234.2.42 3000 |
| Phoenix | orlith.bates.edu<br>elof.lit.edu | 134.181.1.12 3500 |
| Psycho-thriller | icarus.montclair.edu | 130.68.1.40 3000 |
| QUOVADIS | nemesis.imp.ch | 157.161.1.10 2345 |
| STYX | freedom.nmsu.edu | 128.123.1.14 3000 |
| Shadow's Edge | was.chem.psu.edu | 128.118.30.101 2000 |
| The Round Table | ac.wfunet.wfu.edu | 152.17.1.1 2222 |
| Tower of Darkness | alice.ece.scarolina.edu | 129.252.22.36 3000 |
| TubMUD | morgen.cs.tu-berlin.de | 130.149.19.20 7680 |
| Valhalla | midgard.valhalla.com<br>valhalla.com | 192.187.153.1 2444 |
| VikingMUD | bigblue.pvv.unit.no | 129.241.36.232 2001 |
| WanderingMUD | ewok.ecn.purdue.edu | 128.46.185.89 1234<br>128.46.130.89 |
| **MOOs** | | |
| DragonsFire | netman.widener.edu | 147.31.1.51 4444 |
| LambdaMOO | lambda.parc.xerox.com | 13.2.116.36 8888 |
| MagicMOO | dougal.aston.ac.uk | 134.151.36.1 7777 |
| OpalMOO | cc.brynmawr.edu | 130.58.85.1 7777 |
| **TinyMUCKs** | | |
| DruidMuck | freedom.nmsu.edu | 128.123.1.14 4201 |
| Halcyon | hobbes.cs.mcgill.ca | 132.206.3.32 1256 |
| Incarnations | zippy.sonoma.edu | 130.157.2.99 4201 |
| Qwest | betz.biostr.washington.edu | 128.95.10.119 9999 |
| **TinyMUSEs** | | |
| Rhostshyl | rhostshyl.cit.cornell.edu | 128.253.180.15 4201 |
| TOS TrekMuse | siher.stanford.edu<br>ed-ce-034.stanford.edu | 36.109.0.64 1701 |
| TimeMuse | murren.ai.mit.edu | 18.43.0.179 4201 |
| TrekMUSE | nebula.lib.vt.edu | 128.173.7.183 1701 |
| VegaMUSE 2 | galileo.sos.clarkson.edu | 128.153.16.176 2095 |
| WindsMUSE | swrl36.calstate.edu | 130.150.102.36 4208 |
| **TinyMUSHes** | | |
| ApexMUD | apex.ccs.yorku.ca | 130.63.237.12 4201 |
| Global MUSH | lancelot.cif.rochester.edu | 128.151.220.22 4201 |
| ImagECastle | fogey.stanford.edu | 36.22.0.31 4201 |
| PosseMUSH | bohr.sos.clarkson.edu | 128.153.16.134 4201 |
| RedStar | kyriath.cygnus.com | 140.174.1.69 6666 |
| SillyMush | zaphod.cs.uwindsor.ca | 137.207.224.3 1919 |
| TinyCWRU | caisr2.caisr.cwru.edu | 129.22.24.22 4201 |
| ToonMUSH | hobbes.catt.ncsu.edu | 152.1.43.9 3000 |
| TrippyMush | newton.sos.clarkson.edu | 128.153.16.131 7567 |
| UK_MUSH | dawes.brunel.ac.uk | 134.83.192.68 4201<br>134.83.128.247<br>134.83.240.6 |

# EXAMPLE MUD SESSION

$ telnet
telnet> open lambda.parc.xerox.com 8888

```
**********
* WELCOME TO LAMBDAMOO * [Long title screen removed for brevity.]
**********
```

connect waffle mypassword

The Coat Closet
The closet is a dark, cramped space. It appears to be very crowded in here; you keep bumping into what feels like coats, boots, and other people (apparently sleeping). One useful thing that you've discovered in your bumbling about is a metal doorknob set at waist level into what might be a door.

>out
You open the closet door and leave the darkness for the living room, closing the door behind you so as not to wake the sleeping people inside.
The Living Room It is very bright, open, and airy here, with large plate-glass windows looking southward over the pool to the gardens beyond. On the north wall, there is a rough stonework fireplace. The east and west walls are almost completely covered with large, well-stocked bookcases. An exit in the northwest corner leads to the kitchen and, in a more northerly direction, to the entrance hall. The door into the coat closet is at the north end of the east wall, and at the south end is a sliding glass door leading out onto a wooden deck. There are two sets of couches, one clustered around the fireplace and one with a view out the windows. You see Cockatoo, README for New MOOers, a fireplace, a newspaper, Welcome Poster, The Daily Whale, LambdaMOO Takes A New Direction, The Carpet, Helpful Person Finder, lag meter, and The Birthday Machine here. SharonStone (out on her feet), DeLiRiUm, Red_Blob, CyberTec (daydreaming), Xyphus, Azreela, Continuity, and Dottie are here.

>emote waves.
waffle waves.
Xyphus curtsies ironically to His wafflesty.

>look cockatoo
A sulphur-crested cockatoo sitting in a cage on top of the mantelpiece. Next to the cage is a container of birdseed, just out of reach of the cockatoo. On top of the cage is a bowl of soapy water and a scrubbing brush, as well as a cloth gag.

>feed cockatoo
waffle feeds the Cockatoo.
Abraxas waves.

Morpheus appears in a flash of over-the-top special effects. He vanishes again, then returns, strobing rapidly. With a final effort he drags himself into the room. You notice that a copper ring on his right hand is smouldering slightly, and he grins sheepishly at you.

>emote waves to Morph.
waffle waves to Morph.
Morpheus <— thinking of something interesting to say

>eye morph
You eye Morpheus warily.
Xyphus kneels down expertly to His Morpheusitude.

>north
The Entrance Hall
This small foyer is the hub of the currently-occupied portion of the house. To the north are the double doors forming the main entrance to the house. There is a mirror at about head height on the east wall, just to the right of a corridor leading off into the bedroom area. The south wall is all rough stonework, the back of the living room fireplace; at the west end of the wall is the opening leading south into the living room and southwest into the kitchen. Finally, to the west is an open archway leading into the dining room. You see Strasbourg Clock and mirror at about head height here.
>sw
The Kitchen
The kitchen is of a modern design, very large and well-lit, yet still homey and comfortable. The walls are covered in beautiful natural-wood cabinets and the stove is set into a large 'island' counter in the center of the room. Over the sink, along the south wall, there are windows looking out onto the pool and gardens. At the west end of the room, there is a little breakfast nook with a table and four chairs; beyond it to the west is the family room. There are doors in the north wall leading into the dining room, a sliding glass door to the south, and a doorway in the northeast corner leading out into the entrance hall. You see cookbook, the kitchen sink, a refrigerator, Scraps of Paper, Microwave, cuisinart, dishwasher, carrot, plate of cookies, and a piece of Saran Wrap(tm) here.

>open dishwasher
It's already open.

>enter dishwasher
You enter dishwasher.
The interior of a modern dishwasher. Gleaming white plastic, vinyl covered wire racks, and a steaming smell of dish detergent surround you. You see dirty bowl here.

>close dishwasher
You close dishwasher.

>run dishwasher
The dishwasher starts. Hot water and dish detergent splatters all around and scalds you; an enormous din of clanking and gurging deafens you. You're engulfed in clouds of steam and spray. However, you get clean and sterilized.

>look
The interior of a modern dishwasher. Gleaming white plastic, vinyl covered wire racks, and a steaming smell of dish detergent surround you. You see clean bowl here.

## VIRTUAL REALITY FOR ASTRONOMERS

**AstroVR** is a virtual reality for astronomers. Its purpose is to facilitate collaboration by giving shared access to data, images, and tools for on-line research and conferencing. AstroVR is based on **MOO**, a multi-user object-oriented environment. Unlike most MUDs, AstroVR users can work with both text and graphics.

Typically, MUDs are used exclusively for gaming, but Dave Van Buren, at the Caltech/Jet Propulsion Laboratory, feels their potential for applications outside recreation is very real, as they can provide an intuitive interface in a closed "cyberspace."

The idea is to facilitate communications between scientists who are geographically isolated. "Some of the scenarios we wish to support are shared visualization of data with conversation via an audio channel, small group meetings with multimedia display of data and text, and shared use of 'whiteboards' for calculations and sketching ideas," Van Buren said. Also in the works are literature searches and automatic notification when new scientific papers are released.

Scientists in North America and Europe are using AstroVR to share data and notes during observation of a quasar. "Once we have used their project to build a suitable infrastructure, we will open AstroVR to general use by all astronomers, probably within six months.," Van Buren said. The system is still experimental. "We think that once a critical mass of functions and users are present, we will see new uses evolve." AstroVR supports Sun workstations running X and requires special software.


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